

WHAT IS CLAIMED IS:

1. An apparatus for applying pulsed electromagnetic therapy to humans and animals, said apparatus comprising:

a straight-wire element for generating a magnetic field in response to flow of a current pulse therethrough;

a circuit for supplying to said straight wire element a current pulse that approximates a square pulse in form, so that said straight-wire element generates a magnetic pulse having rapid rise and fall times; and

a portable housing containing said circuit and straight-wire element so that said straight wire element can be placed in close proximity with an affected area of a body.

2. The apparatus of claim 1, wherein said straight wire element is formed integrally with said circuit.

3. The apparatus of claim 1, wherein said magnetic pulse generated by said straight wire element has a sustained peak field strength duration of less than about 300 nanoseconds.

4. The apparatus of claim 3, wherein said magnetic pulse has a duration of about 200 nanoseconds.

5. The apparatus of claim 3, wherein said magnetic pulse has a peak field strength of less than about 3-5 gauss at a 1 cm distance from said straight wire element.

6. The apparatus of claim 5, wherein said magnetic pulse has a peak field strength of about 2 gauss at a 1 cm distance from said straight wire element.

7. The apparatus of claim 5, wherein said magnetic pulse is repeated with a frequency in the range of about 10-100 Hz.

8. The apparatus of claim 7, wherein said magnetic pulse is repeated with a frequency of about 70 Hz.

9. The apparatus of claim 1, further comprising:  
a sensory indicator that demarcates an approximate range over which said magnetic field is generated.

10. The apparatus of claim 9, wherein said sensory indicator comprises:  
an LED mounted in said housing for illuminating shin over said approximate range of said magnetic field.

11. The apparatus of claim 1, wherein said portable housing comprises a hand-held probe that encloses a single said circuit and straight wire element.

12. The apparatus of claim 1, wherein said housing comprises a conformed pad having a plurality of said circuits and straight wire elements enclosed therein.

13. The apparatus of claim 12, wherein said conformed pad comprises a pliable sheet having said circuits and straight wire elements embedded therein.

14. A method for applying pulsed electromagnetic therapy to humans and animals, said method comprising the steps of:

positioning a straight wire element in close proximity to an affected area of a body, for generating a magnetic field in response to flow of a current pulse therethrough; and

supplying to said straight wire element a current pulse that approximates a square pulse in form, so that said straight wire element generates a magnetic pulse having rapid rise and fall times.

15. The method of claim 14, wherein said magnetic pulse generated by said straight wire element has a sustained peak field strength duration of less than about 500 nanoseconds.

16. The method of claim 15, wherein said magnetic pulse has a duration of about 200 nanoseconds.

17. The method of claim 15, wherein said magnetic pulse has a peak field strength of less than about 5 gauss at a 1 cm distance from said straight wire element.

18. The method of claim 17, wherein said magnetic pulse has a peak field strength of about 2 gauss at a 1 cm distance from said straight wire element.

19. The method of claim 17, wherein said magnetic pulse is repeated with a frequency in the range of about 10-100 Hz.

20. The method of claim 19, wherein said magnetic pulse is repeated with a frequency of about 70 Hz.